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THE IDENTITY OF *PHILIRIS NITENS* (GROSE-SMITH) (LEPIDOPTERA: LYCAENIDAE), WITH DESCRIPTION OF A NEW SUBSPECIES FROM PAPUA NEW GUINEA

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Abstract

The identity of *Philiris nitens* (Grose-Smith) is defined, and both *P. nitens restricta* Tite and *P. kamerungae kamerungae* Waterhouse are considered synonyms of *P. nitens nitens*. *Philiris nitens lucina* Waterhouse and Lyell is a new combination, and *P. nitens sappheira* ssp. n. is described from Papua New Guinea.

Introduction

The identity of *Philiris nitens* (Grose-Smith) and its status as a species distinct from *P. kamerungae* Waterhouse has been the subject of some doubt (Tite, 1963; Common and Waterhouse, 1972). Tite (1963) examined the male genitalia of the holotype specimen of *P. nitens* and found they were similar to those from specimens identified as *P. kamerungae*; however he considered the wider dark hind wing margin, the absence of a discal white area in the fore wing and the purple tint of the upperside of *P. nitens* males, sufficient to maintain the distinction of the two species. Re-examination of the holotype specimen of *P. nitens* labelled "N. Queensld.", in the British Museum (Natural History), has shown that the colour of the wings falls within the range of variation of specimens identified as *P. kamerungae kamerungae*, thus showing the two species to be conspecific.

Both sexes of *P. nitens restricta* Tite recorded from Cedar Bay, northern Queensland also fall within the range of variation known for ssp. *nitens*, there being specimens known from near Cairns, Kirrama and Tully with no white suffusion on the upperside of the fore wing and wide dark margins on the hind

wing. These were characters considered by Tite (1963) to distinguish ssp. *restricta*, which therefore cannot be recognised as a valid subspecies. As a result of the above, *P. kamerungae* and *P. nitens restricta* are synonymised with *P. nitens nitens*.

***Philiris nitens nitens* (Grose-Smith)**

(Figs 1-3)

Holochila nitens Grose-Smith, 1898, p. 107.

Philiris kamerungae Waterhouse, 1903a, pp. 650, 651; 1903b, p. 189. **Syn. n.**

Philiris kamerungae kamerungae Waterhouse, Waterhouse and Lyell, 1914, p. 77; Waterhouse, 1932, p. 137; Tite, 1963, p. 240; Common, 1964, p. 124; D'Abbrera, 1971 and 1978, p. 372; McCubbin, 1971, p. 72; Common and Waterhouse, 1972, p. 425.

Philiris nitens (Grose-Smith), Waterhouse, 1903b, p. 190

Candalides kamerungae (Waterhouse), Grunberg in Seitz, 1922, p. 853.

Philiris nitens restricta Tite, 1963, p. 241; Common and Waterhouse, 1972, p. 426. **Syn. n.**

Philiris nitens nitens (Grose-Smith), Tite, 1963, p. 240; Common and Waterhouse, 1972, p. 426.

TYPES:— *Holochila nitens* Grose-Smith: *holotype* ♂ labelled, "nitens Grose-Smith Type ♂", "N. Queensld.", "Gen. 1962. 436. G.E.T.", "Rothschild bequest BM. 1939-1" with genitalia slide, in British Museum (Natural History), London. *Philiris kamerungae* Waterhouse: *lectotype* ♂, here designated, labelled "Kuranda, N.Q., Mar. 1902, R. E. Turner", "*Philiris kamerungae* type ♂, G. A. Waterhouse, KL21485", in Australian Museum, Sydney. *Philiris nitens restricta* Tite: *holotype* ♂ labelled "Cedar Bay, S. of Cooktown (Meek)", "Rothschild bequest BM. 1939-1", "Gen. 1962 440. G.E.T.", "Type HT", "*Philiris nitens restricta* Tite, *Holotype* ♂, BM type No. Rh 16843" with genitalia slide; *allotype* ♀ labelled "Cedar Bay, S. of Cooktown (Meek)", "Type AT", "*Philiris nitens restricta*, Tite," "ALLOTYPE ♀", BM. Type No. Rh 16844", in British Museum (Natural History), London.

The lectotype of *P. kamerungae* here designated is the specimen referred to by Peters (1971) as the holotype. It bears a red label and is listed in a register of specimens, in the handwriting of G. A. Waterhouse, as the holotype.

Philiris nitens lucina* Waterhouse and Lyell, *comb. n.

(Figs 4-6)

Philiris kamerungae lucina Waterhouse and Lyell, 1914, p. 77; Waterhouse, 1932, p. 138; Tite, 1963, p. 240; Common, 1964, p. 124; D'Abbrera, 1971 and 1978, p. 372; McCubbin, 1971, p. 72; Common and Waterhouse, 1972, p. 425.

TYPES:— *Lectotype* ♂ *Philiris kamerungae lucina* Waterhouse and Lyell, here designated, labelled "L5422, Cape York, 18 JULY 1910, H. Elgner", "KL21517", "G. A. Waterhouse collection"; 1 *paralectotype* ♂ labelled "Cape York, H. Elgner", "KL21520"; 3 *paralectotype* ♀♀ labelled "Cape York, 22 Oct 1908, H. Elgner", "KL21518"; "Cape York, Q. 3:3:08, G.A. Waterhouse Coll. Elgner", "KL21519" and "Cape York, 3.8.10, H. Elgner", "KL21521", in Australian Museum, Sydney.

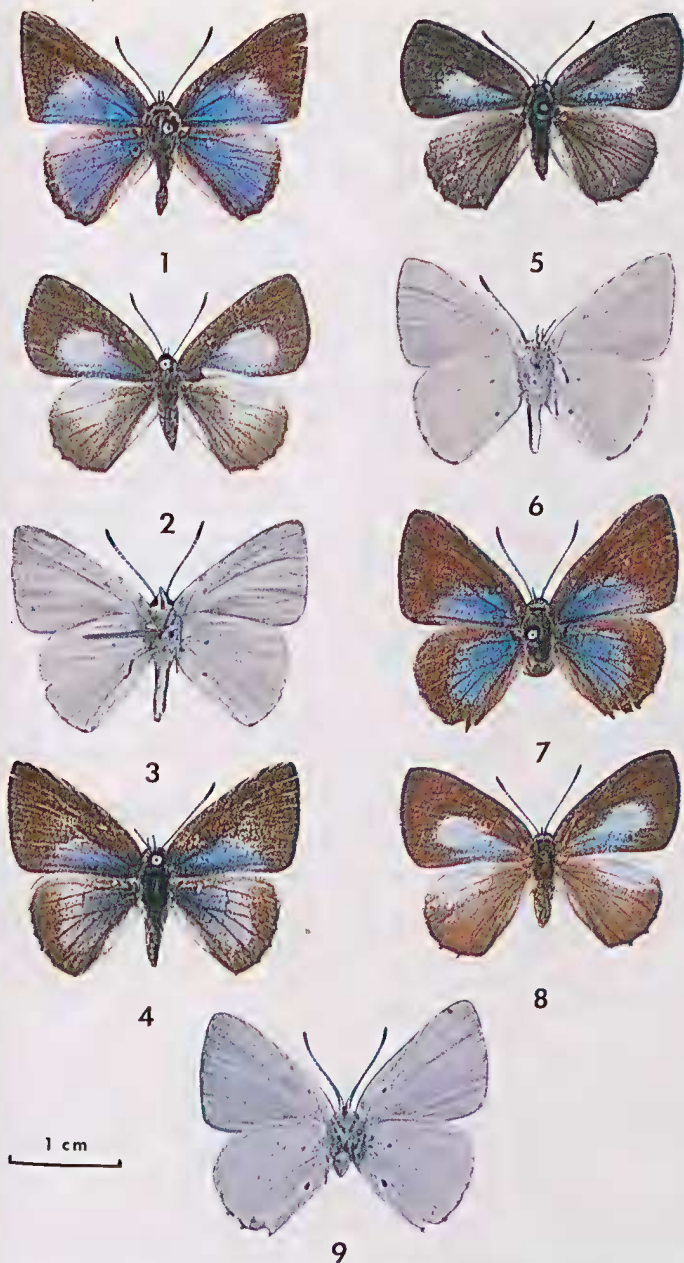
P. nitens lucina Waterhouse and Lyell is recognised to represent specimens from Cape York, Heathlands and Iron Range, northern Queensland.

***Philiris nitens sappheira* ssp. n.**

(Figs 7-10)

Philiris nitens ssp., Sands and Fenner, 1978, p. 107.

TYPES:— *Holotype* ♂ (ANIC Type Reg. No.3297 genitalia slide M. 511) labelled "PAPUA NEW GUINEA, Rouna Falls, Central Prov., 28 June 1975, 550m, D. P. Sands"; 1 *paratype*



Figs 1-9. *Philiris nitens* ssp.: (1-3) *P. n. nitens* (Grose-Smith), Cairns, northern Queensland; (4-6) *P. n. lucina* Waterhouse and Lyell, Iron Range, northern Queensland; (7-9) *P. n. sappheira* Sands, Rouna Falls, Papua New Guinea. 1, 3, 4, 6, 7, 9 males, 2, 5, 8 females; 1, 2, 4, 5, 7, 8 upperside, 3, 6, 9 underside.

♀ labelled "NEW GUINEA, Subitana (Central District), 1800 ft. Sept. 15, 1949, collected by Wm. Brandt, E. J. L. Hallstrom"; 1 *paratype* ♂ labelled "Kokoda Trl. Cent. Prov. PNG., 10 Jan. 1977, R. Straatman", in Australian National Insect Collection, CSIRO, Canberra; 2 *paratype* ♂♂ labelled "Papua N. Guinea, Central Dist. Rouna, 400 m, T. Fenner" with dates 21 April 1974 and 6 February 1974, in the Central Reference Collection, Department of Primary Industry, Konedobu, Papua New Guinea.

Male (Figs 7, 9). Antennal length (of holotype) 6.8 mm, shaft dull black with white segmental bands, club dull black, apex tipped orange-brown; head grey, frons adjacent to eye margins white, palpus white, terminal segment and dorsal surface dull black, thorax and abdomen dark grey, ventrally white; legs white, tibiae and tarsi with black bands. Fore wing length (of holotype) 13.0 mm, costa almost straight, termen slightly bowed, colour above grey-black, a basal area not reaching discocellular vein, and extending three quarters length of hind margin, bright metallic blue. Hind wing termen rounded, colour above grey-black, basal half bright metallic blue, costa and inner margin greyish. Fore wing beneath, silky white, basal dark suffusion between CuA_2 and $1A + 2A$. Hind wing colour beneath white, a narrow black terminal line from M_3 to tornus, and black submedian spot on inner margin. Cilia white, at veins ends M_3 , CuA_1 , CuA_2 and tornus, black.

Male genitalia (Fig. 10). Vinculum posteroventrally expanded, sociuncus broad, socii with posterolateral margins bowed; sinus V-shaped, uncus weakly developed, bluntly bifurcate; brachium long, slender, tapered distally; valva slender, subtubular, broad basally, left valva slightly larger than right (viewed posteriorly) with long distal setae; juxta undeveloped, aedeagus simple, postzonal sheath long, prezonal sheath short, weakly developed, cornutal spines absent, replaced by melanic patch within vesica; anal tube long, strongly sclerotized ventrally.

Female (Fig. 8). Antennal length (of paratype) 6.4 mm, antennal shaft, head, palpus, thorax, abdomen and legs similar in colour to male. Fore wing length (of paratype) 13.0 mm, termen bowed; colour above dark grey, with central white spot, overlaid with pale blue scales posterior to cell, not reaching base, and extending slightly more than half inner margin. Hind wing rounded, colour above grey-brown, costa with white area not reaching base, extending to M_2 ; cilia white, at vein ends M_3 , CuA_1 , CuA_2 and tornus dark brown. Fore and hind wing beneath, similar to male.

Comments

Waterhouse and Lyell (1914) described *P. kamerungae lucina* (now considered to be *P. nitens lucina*) from specimens collected at Cape York, northern Queensland. Male specimens since collected at the Claudie River, Heathlands and Lockerbie Scrub, northern Queensland can be distinguished from the southern ssp. *nitens* by the broader dark margins and less extensive blue on the upperside of both wings. In the males of *P. nitens nitens* the white area of the costa of the hind wing rarely extends posteriorly to vein M_1 , whereas in ssp. *lucina* a postmedian white suffusion is usually present from the

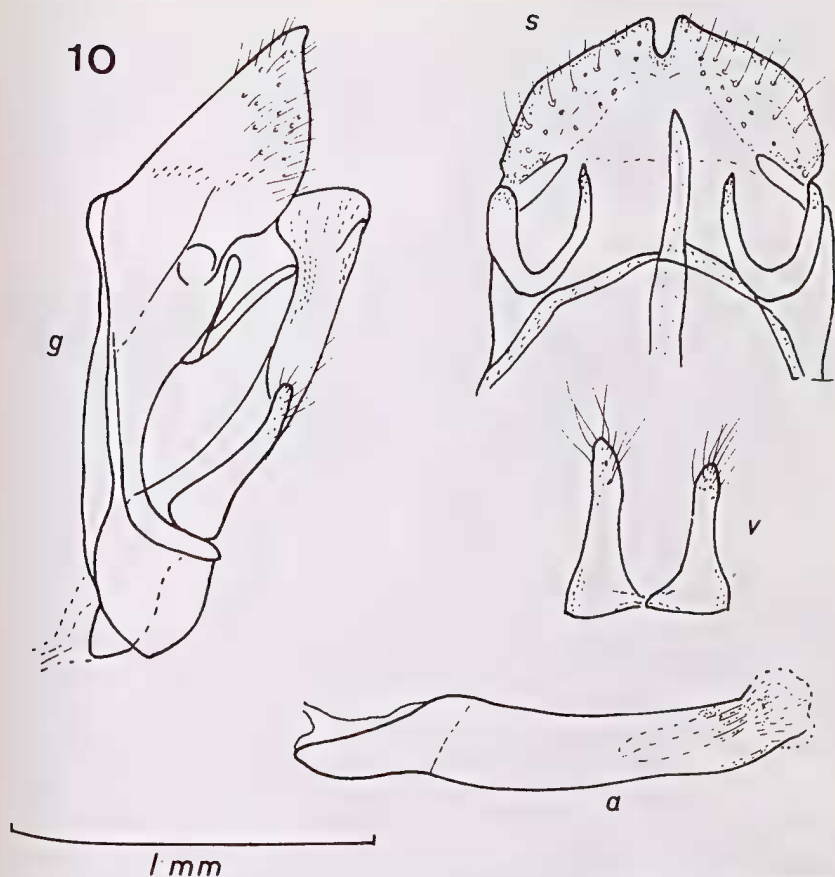


Fig. 10. *Philiris nitens sappheira* Sands, holotype male genitalia: a, aedeagus; g, lateral view, genitalia unmounted; s, sociuncus; v, valvae from slide preparation.

costa to CuA_1 . Another difference recorded by Sands and Fenner (1978), is the shorter valvae of the male genitalia of ssp. *lucina*.

Female specimens of both *P. nitens nitens* and *P. nitens lucina* are similar and extremely variable. Such variation was noted elsewhere in the genus by Forbes (1977). One female of *P. nitens nitens* collected in Cairns and reared in Brisbane has the upperside of both pairs of wings extensively white, with only narrow black margins. Other females are known (including the allotype of *P. nitens restricta*) with the hind wing almost entirely dark brown and only a faint grey suffusion on the postmedian portion of the costa. The fore wing area of white may also be reduced to a slight suffusion overlaid by blue scales.

Male specimens of *P. nitens sappheira* may be distinguished from the Australian subspecies by the restricted areas of blue and absence of white from both wings above, and the rounded termen of both wings. The valvae of the male genitalia of *P. nitens sappheira* are shorter than those of *P. nitens nitens* but are similar in length to *P. nitens lucina* (Sands and Fenner, 1978). Females of *P. nitens sappheira* are very similar to some females of Australian material and cannot be distinguished from them.

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